

SOV/137-58-9-19809

Translation from: Referativnyy zhurnal, Metallurgiya, 1958, Nr 9, p 242 (USSR)

AUTHORS: Lyubov, B.Ya., Temkin, D.Ye.

TITLE: Calculation of the Temperature Field and the Rate of Displacement of a Phase-transformation Front in Spherical Bodies
(Raschet temperaturnogo polya i skorosti peremeshcheniya fronta fazovogo prevrashcheniya v sfericheskikh telakh)

PERIODICAL: Sb. tr. In-t metalloved. i fiz. metallov Tsentr. n.-i. in-ta chernoy metallurgii, 1958, Vol 5, pp 311-316

ABSTRACT: Starting with the equations for thermal conductivity the authors determine the temperature field in a solid phase and formulate an expression for the law governing the growth, as a function of time, of the region occupied by a solidifying melt contained within a spherical volume of a liquid phase that is maintained at the temperature of crystallization, T_k ; at the initial instant the surface of the sphere is cooled below T_k , while the solid phase is absent entirely. A method which has been developed earlier is employed (RZhFiz, 1956, Nr 4, abstract 10468). Equations for the time of the beginning and the end of the process are derived. 1. Metals--Transformations

V.R.

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s/137/62/000/006/089/163
A160/A101

AUTHORS: Lyubov, B. Ya., Temkin, D. Ye.

TITLE: The theory of crystallization in large volumes

PERIODICAL: Referativnyy zhurnal, Metallurgiya, no. 6, 1962, 4, abstract 6125
("Sb. tr. In-t metalloved. i fiz. metallov Tsent. n.-i. in-ta
chernoy metallurgii", v. 6, 1959, 84 - 99)

TEXT: A calculation was made of the solidification rate of a metal ingot with consideration of undercooling. Crystallization processes for two boundary cases were considered: for a case of total intermixing and for a case of heat exchange in the melt by heat conductivity. It is shown that the undercooling at the front of the crystallization quickly decreases as it proceeds and soon diminishes to a minimum after the beginning of the process. From an analysis of the equations obtained it is concluded that the overheat gradually abates during the solidification process of the ingot and that the remaining liquid proves to be undercooled at the given moment. Due to this fact, new centers of crystallization may arise. The results of the work permit the explanation of the pre-

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The theory of crystallization in large volumes

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sence of three zones in the ingot: the zone of a thin scum of fine equiaxial crystals, the columnar zone, and the central zone of equiaxial crystals.

D. Ovsienko

[Abstracter's note: Complete translation]

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S/020/60/132/06/22/068
B014/B007

AUTHOR: Temkin, D. Ye.

TITLE: The Rate of Growth of Crystal Needles¹⁸ in an Undercooled Melt

PERIODICAL: Doklady Akademii nauk SSSR, 1960, Vol. 132, No. 6,
pp. 1307 - 1310

TEXT: The author first states that the steady forms of needle-shaped crystals can be represented by a paraboloid of revolution provided the needles have isothermal surfaces. Proceeding from equation (1), which describes the temperature field in the melt, he derives equation (5) for the temperature on the surface of the crystal. In the case of non-isothermal surfaces, the steady forms do not form any paraboloids of revolution. They may be looked upon as such only in first approximation. For this case, the surface temperature is described by equation (6). In a voluminous thermodynamic study, formula (17) is derived for the rate of motion of the needle, which holds for the non-isothermal case. The analogue for the isothermal case is formula (2). From (17), the system of equations (19) is then obtained for the maximum rate and the upper

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The Rate of Growth of Crystal Needles in an Undercooled Melt

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rounding of the needle-shaped crystal. Two limiting cases of this system are studied. In the former case, the rounding does not depend on undercooling, and the rate is proportional to undercooling, in the latter case there is no undercooling on the crystallization front. In the intermediate case, the rate increases proportional to the undercooling and the rounding becomes smaller. Fig. 1 shows the results obtained by investigations of the rate of growth of tin dendrites in undercooled melts. This diagram also shows the calculated maximum rate. Fig. 2 graphically shows the calculated radii of curvature of the needle points. There are 2 figures and 5 references: 2 Soviet, 1 German, and 2 American.

ASSOCIATION: Institut novoy metallurgicheskoy tekhnologii Tsentral'nogo nauchno-issledovatel'skogo instituta chernoy metallurgii
(Institute of New Metallurgical Technology of the Central Scientific Research Institute of Ferrous Metallurgy)

PRESENTED: February 12, 1960, by G. V. Kurdyumov, Academician

SUBMITTED: February 10, 1960

Card 2/2

TEMKIN, D.Ye.

Condition for the stability of the plane interface between the solid and the liquid phase during the crystallization of a binary alloy. Dokl.AN SSSR 133 no.1:174-177 J1 '60.
(MIRA 13:7)

1. Institut novoy metallurgicheskoy tekhnologii TSentral'nogo nauchno-issledovatel'skogo instituta chernoy metallurgii. Predstavleno akademikom G.V.Kurdyumovym.
(Alloys) (Crystallization)

38355

S/058/62/000/005/070/119

A061/A101

189500

AUTHORS: Lyubov, B. Ya., Temkin, D. Ye.

TITLE: Distribution of soluble impurities in crystallization

PERIODICAL: Referativnyy zhurnal, Fizika, no. 5, 1962, 10, abstract 5E84 (V sb. "Rost kristallov. T. 3", Moscow, AN SSSR, 1961, 59 - 67. Discuss., 214 - 218)

TEXT: The distribution of a soluble impurity in solid phase on crystallization from a melt has been determined. The following assumptions are made in solving the problem: 1) the problem is one-dimensional (plane front of crystallization moving according to a certain law $y(t)$); 2) the impurity is unlimitedly soluble both in the melt and in the solid phase; 3) the law $y(t)$ is postulated; 4) near the liquid-solid interface, equilibrium is established almost instantaneously; 5) convection is absent, and mass transfer takes place only by molecular diffusion. A general method of solving the problem is presented, together with the boundary conditions and the fundamental integral equation representing the solution. An approximate solution of this equation is given for two courses

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Distribution of soluble impurities in crystallization

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of $y(t)$, i.e., crystallization taking place at a constant rate, and crystallization by the law $y(t) \sim \sqrt{D_2 t}$, where D_2 is the coefficient of impurity diffusion in the melt. The two solutions are of a like nature, since the impurity concentration grows from initially solidified portions to those solidifying later. The conditions, under which the impurity distribution is bound to be sharply non-uniform, are analyzed. f

K. Gurov

[Abstracter's note: Complete translation]

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S/180/61/000/001/001/015
E073/E535

AUTHOR: Temkin, D. Ye. (Moscow)

TITLE: On the Nature of the Distribution of Soluble Admixture;
in a Rimming Steel Ingot

PERIODICAL: Izvestiya Akademii nauk SSSR, Otdeleniye tekhnicheskikh
nauk, Metallurgiya i toplivo, 1961, No.1, pp. 10-14

TEXT: In contrast to killed steel, rimming steel ingots are nonuniform as regards the concentration of components dissolved in it. According to A. Hayes and J. Chipman (J. Trans. AIME, 1959, Vol.135, p.85) the character of the carbon distribution in the central part of a cylindrical steel ingot 457 x 914 mm is that shown in Fig.1 (ℓ - distance from the ingot surface, mm). The above authors proposed the following explanations for the initial fall and subsequent rise of the carbon content with increasing distance from the surface: 1) Since the distribution coefficient k of the admixtures between the solid and the liquid phase differs from the value 1, the crystallizing solid phase differs in composition from the liquid phase bordering on it. 2) For $k < 1$ the solid phase squeezes out the excess admixture quantity, which leads to the formation of a melt layer with an increased admixture

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concentration ahead of the crystallization front. Thus, if the initial concentration of the admixture in the melt is C_0 , then the concentration of the melt at the front will be higher and the rejected solid phase may have a composition approaching C_0 . According to Hayes and Chipman, this "capture" of admixtures is due to imperfect mixing of the melt. An increased diffusion speed caused by intensive mixing of the melt with gas bubbles during boiling and a reduction with time of the crystallization speed should reduce the concentration of the admixtures in the enriched layer and in the solid phase, Fig.1. 3) An increase in concentration after the minimum is explained by the increase in the role of "mechanical capture of the admixtures"; after penetrating deeper into the melt the growing branches of the dendrites will prevent the intermixing of the "captured" melt with the basic mass. Simultaneous consideration of the influence of both types of capture on the distribution of the admixtures is undoubtedly desirable but, so far, we do not have enough conclusive data on the conditions of formation of dendrites and particularly on the kinetics of their growth. Therefore, it is very difficult to

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construct a theory of mechanical capture. In this paper the author will consider that there is no mechanical capture, i.e. that the crystallization front is a smooth surface without any dendrite formations. In earlier work (B. Ya. Lyubov, D. Ye. Temkin "Distribution of soluble admixtures during crystallization", Symposium "Rost kristallov", Vol.3, Moscow, 1961), the character was analysed of the distribution of admixtures for certain particular cases of crystallization of a flat ingot: Case 1. $y(t) = \beta\sqrt{t}$; Case 2. Crystallization with a constant speed v , $y(t) = vt$. The first case is characterized by the fact that almost along the entire width the concentration of the admixtures differs little from the initial one, C_0 , and only in a narrow section which crystallizes last will it be higher than the initial value. In the second case, there are peripheral and central sections in which the concentrations are respectively higher and lower than C_0 . The relative width of sections with compositions differing greatly from the average one will be the smaller the higher the crystallization speed, more correctly the larger β^2/D in the first case and the larger v/D in the second case (D - diffusion coefficient of the

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admixture in the melt, l - half-width of the ingot). In both cases the concentration will increase continuously from the periphery towards the centre. In other cases in which the speed of crystallization decreases with time, it can be assumed that the concentration of the admixtures will not increase continuously from the periphery towards the centre and on certain sections it will fall on approaching the centre. Consequently, the admixture distribution curve may show a minimum. To verify this point the author considers the problem of the distribution of the admixtures in accordance with a so far arbitrary law of crystallization $y(t)$ with the following simplifying assumptions: 1) crystallization occurs on a flat wall of a melt of an infinite length along the x-axis, whereby at the initial instant $t = 0$ the melt is uniform and has an admixture concentration of C_0 . 2) The mass transfer in the melt is characterized by the diffusion coefficient D . To enable applying the obtained results to rimming steel, some "effective" diffusion coefficient will be expressed by the value D . 3) There is no diffusion of admixtures in the solid phase. The plot, Fig.3, shows the calculated dependence of the thickness of the crust $y(t)$ and of the speed of crystallization $y'(t)$ as a function of

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time; the dashed line curve in the same plot shows the experimental values obtained by Hayes and Chipman (y, cm ; $y' \cdot 10^2, \text{cm/sec}$, t, sec). The plot, Fig.4, shows calculated curves of the carbon distribution ($k = 0.13$) in the steel ingot, whereby the line 1 applies to $D = 2.5 \times 10^{-5} \text{ cm}^2/\text{sec}$; the curve 2 applies to $D = 2.5 \times 10^{-3} \text{ cm}^2/\text{sec}$, and the curve 3 applies to $D = 2.5 \times 10^{-2} \text{ cm}^2/\text{sec}$. Comparing the theoretical values with those determined experimentally by Hayes and Chipman it can be stated that the theoretical curves do reflect the tendency of the change in concentration as a function of the distance from the surface. According to the plot, Fig.4, the concentration minimum is at a depth of 7 to 8 cm, whilst according to Fig.1 it is at a depth of 6 to 7 cm. The agreement would be better if the fact would have been taken into consideration that during crystallization the coefficient D does not remain constant since it is determined by the boiling intensity. Thus, taking into consideration only the nonuniformity of admixtures in the melt, it is possible to explain the characteristic of the curve of the admixture distribution in the solid phase without taking additionally into consideration the conception of mechanical capture.

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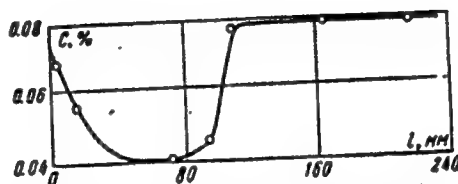
S/180/61/000/001/001/015
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Additional investigations will be required for elucidating the role of mechanical capture. There are 4 figures and 1 non-Soviet reference.

ASSOCIATION: TsNIIChermet

SUBMITTED: April 1, 1960

Fig. 1



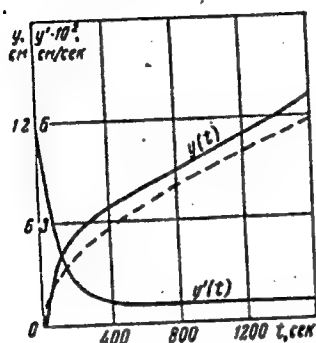
Фиг. 1. Распределение углерода в средней части цилиндрического стального слитка 457X X914 мм по данным работы [1]; l — расстояние от поверхности слитка

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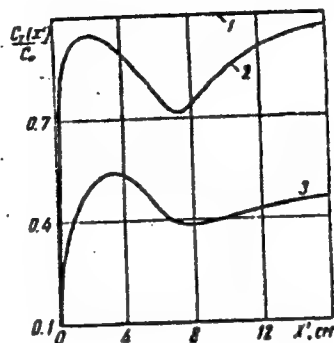
Fig. 3



Фиг. 3. Зависимость толщины корки $y(t)$ и скорости кристаллизации $y'(t)$ от времени, принятая при численном расчете (пунктиром нанесена зависимость толщины корки от времени в опытах работы [1])

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Fig. 4



Фиг. 4. Рассчитанные кривые распределения углерода ($k=0.13$) в стальном слитке: 1 — $D=2.5 \cdot 10^{-3} \text{ см}^2/\text{сек}$; 2 — $D=2.5 \cdot 10^{-3} \text{ см}^2/\text{сек}$; 3 — $D=2.5 \cdot 10^{-3} \text{ см}^2/\text{сек}$

L 19387-63

EWP(q)/EWT(m)/EWP(B)/BDS

AFTTC/ASD JD

ACCESSION NR: AT3001921

S/2912/62/000/000/0249/0258

AUTHOR: Temkin, D. Ye.

TITLE: On the stability of a planar front in crystallization from a fusion

SOURCE: Kristallizatsiya i fazovyye perekhody. Minsk, Izd-vo AN BSSR, 1962, 249-258.

TOPIC TAGS: crystal, crystallization, crystallography, front, stability, instability, excrescence, bulge, Sn, Mo, glass, tin, molybdenum

ABSTRACT: This paper provides a brief survey of existing literature on the experimental study of the conditions in which a smooth crystallization front (CF) becomes unstable in the crystallization of pure metals and alloys. New reasonings are adduced and experimental data set forth in an endeavor to achieve a more complete theoretical analysis of the individual factors that determine the stability of a smooth CF and the forms of crystalline growth that occur when the CF becomes unstable. The stability of a CF is defined by the condition that the rate of growth of an excrescence (E) from the CF must be smaller than that of the CF itself. This condition is expressed in terms of the respective heat rejections (HR) from the E and the flat portion of the CF. Contrary to opinions prevalent in the literature,

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the author states that the presence of supercooling within a fusion is not a condition sufficient for instability (IS). He distinguishes 3 conditions for the IS of a planar CF of a pure metal from a fusion: (1) Crystallization with heat transfer (HT) into the supercooled liquid phase only. In this instance the HT effect and the surface-tension (ST) effect counteract each other, and the crystal will grow stably, until an E of a certain critical magnitude will appear on its surface, and any further growth will lead to IS. (2) Crystallization with HT into the solid phase only. In this instance, a smooth CF will always be stable. (3) Crystallization with HT into the solid and liquid phases. The author has shown previously (Sbornik rabot TsNIICHM, no. 4, 1960, 63) that the heat flux from the top of an E can be greater or smaller than, or equal to, the total heat flux from the flat CF. A brief summary of this reasoning is repeated in the present paper. The condition for IS of a planar CF in the crystallization of a binary alloy is restated in accordance with the author's paper in Akad. nauk SSSR, Dokl., v.133, no. 1, 1960, 174. The effects of the component and purity distributions on the stability of the CF are discussed, and it is shown that additional experimental investigations on the stability of the crystallization of a pure and alloys with very small impurity contents are necessary to substantiate any theoretical concepts set forth here. An experimental investigation of the stability of a plane CF in the crystallization of a pure metal was performed on Sn (better than 99.998% pure) in a crucible, 15-mm diam, 30-mm high,

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consisting of a Mo-glass cylinder and an Al bottom. The glass cylinder was heavily heat-insulated with asbestos-cement packing. Temperature (T) measurement was done by a Nichrome-Constantan thermocouple (0.5-mm diam). The e.m.f. of the thermocouple was recorded by a BP-102 electronic recording potentiometer. The alloy in the crucible was heated from above, so that a liquid layer overlay a solid bottom plug. Upon cessation of heat advection, the fusion front became the CF; the fusion above the CF was cooled by HT to the surrounding air. T measurements and visual observations revealed the absence of any dendritic formations, thereby substantiating the stability of the CF. This is in contradiction to the results of F. Weinberg and B. Chalmers, Canad. J. Phys., v. 29, no. 5, 1951, 382, and v. 30, no. 5, 1952, 488, who may have mistaken the dendrites formed on an advanced portion of the solid phase near the walls as being representative of the flat CF. In the present experimentations, the moving overall CF had a purely cellular structure. It is concluded that opinions voiced in extant literature on the sufficiency of even a small degree of supercooling of a fusion to trigger an instability of the plane CF in the crystallization of a pure metal are invalid. Orig. art. has 5 figures, 4 tables, and 15 numbered equations.

ASSOCIATION: none

SUBMITTED: 00

DATE ACQ: 16Apr63

ENCL: 00

SUB CODE: CH, PH, MA, EL.

NO REF SOV: 002

OTHER: 007

Card 3/3

TEMKIN, D.Ye.

Temperature field in a crystallizing ingot of cylindrical form.
Inzh.-fiz.zhur. 5 no.4:89-92 Ap '62. (MIRA 15:4)

1. Tsentral'nyy nauchno-issledovatel'skiy institut chernoy
metallurgii imeni I.P.Bardina, Moskva.
(Crystallization) (Heat-Conduction)

S/070/62/007/003/017/026
E132/E460

AUTHOR: Temkin, D.Ye.

TITLE: ~~The kinetics of the growth of a crystal needle in a~~
supercooled binary melt

PERIODICAL: Kristallografiya, v.7, no.3, 1962, 446-450

TEXT: The question of the stationary growth of a crystalline needle, which has the form of a paraboloid of revolution, in a binary supercooled alloy is theoretically examined. It is shown that the surface of the needle is not an isotherm as its curvature and normal rate of growth change along its length. For a given concentration C_0 of the second component in the melt, the needle becomes fatter with increasing supercooling and its rate of growth increases. For a given supercooling, the needles become thicker and their growth slows down with increasing C_0 . The parameters characterizing the kinetics of the growth of the needles have been calculated for the system Sn-Pb. If the dependence of the equilibrium temperature on the curvature of the crystal faces is neglected then a paraboloidal form of crystalline needle may be stable. The question of the optimum

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The kinetics of the growth ...

S/070/62/007/003/017/026
E132/E460

form of needle to give, under set conditions, the greatest rate of growth, still needs special examination. There are 4 figures and 1 table.

ASSOCIATIONS: Institut metallovedeniya i fiziki metallov
(Institute of Science of Metals and Physics of Metals)
Tsentral'nogo nauchno-issledovatel'skogo instituta
chernoy metallurgii im. I.P.Bardina
(Central Scientific Research Institute for Ferrous
Metallurgy imeni I.P.Bardin)

SUBMITTED: July 20, 1961

Card 2/2

Григорьев, Георгий Генрихович; ГУЛЯ-ЯРОВСКИЙ, Василий Васильевич;
ТРЕКЛИ, Григорий Яковлевич; НИКОЛОВА, Ye.V., редактор;
ЧИЧЕРИН, A.H., технический редактор

[Continuity of production in the Evg.Sokolova typesetting plant]
Potochnost' proizvodstva v nabornom tsakhe tipografii imeni Evg.
Sokolova. Moskva, Gos.izd-vo "Iskusstvo," 1957. 82 p.
(Typesetting) (HQA 10.10)

TEMKIN, I.B.

Effectiveness of exercise therapy in the treatment of gastritis
in a health resort. Vop.kur.fizioter. i lech.fiz.kul't no.2:
57-61 Ap-Je '55. (MLRA 8:8)

1. Kurort Izhevskiy Mineral'nyye Vody
(GASTRITIS, therapy,
exercise ther.)
(EXERCISE THERAPY, in various diseases,
gastritis)

TEMKIN, I. B. Cand Med Sci -- (diss) "Therapeutic Physical
Exercise *Conf. Rep.* *Start* *Applied*
~~Culture in the Multilateral Health-Spa~~ Therapy of Patients with
Lumbosacral Radiculitis." Mos, 1957. 13 pp 21 cm. (Min of
Health RSFSR, Central Inst of the Science of Health Resorts),
200 copies (KL, 18-57, 98)

TEMKIN, I.B., kand.med. nauk (Kuybyshev-obl.)

Exercise therapy in the compound treatment of exacerbations
of brucellosis; abstract. I.B. Temkin. Kaz.med. zhur. no.1:
116-117 Ja-F'61 (MIRA 16:11)

*

TEMKIN, I.B.

Direct effect of physical exercises on the muscular tonus and
arterial pressure in hypotension. *Eksp. issl. po fiziol.,*
biokhim. i farm. no.3:93-98 '61 (MIRA 16:12)

1. Gosudarstvennyy nauchno-issledovatel'skiy bal'neologicheskiiy institut na Kavkazskikh mineral'nykh vodakh.

TEMKIN, I.B.

Changes in motor chronaxie in brucellosis during mud and sea bath treatment combined with physical training at a health resort. Vop. kur., fizioter. i lech. fiz. kul't. 27 no.1:44-46 '62. (MIRA 15:5)

1. S kurota Sergiyevskiye Mineral'nyye Vody i kafedry normal'noy fiziologii (zav. - chlen-korrespondent AMN SSSR prof. M.V.Sergiyevskiy) Knybyshevskogo meditsinskogo instituta.

(CHRONAXIA)

(THERAPEUTICS, PHYSIOLOGICAL)

(BRUCELLOSIS)

TEMKIN, I. S.

FA 4/49T55

USSR/Medicine - Bladder, Regeneration
Medicine - Tumors, Experimental

Feb 48

"Pathogenesis of Occupational (Aniline) Neoplasm in
the Bladder," I. S. Temkin, Urological Dept, Blagu-
shinsk Hosp, Moscow, 1½ pp

"Sov Med" No 2

Reviews history of subject since 1895. Describes
cases observed since 1936. Discusses prophylactic
measures used in USA and USSR. Attempts to produce
aniline tumors experimentally have met with doubtful
success.

4/49T55

LIKHACHEV, A. G.; PREOBRAZHENSKIY, B. S.; TEMKIN, I. S.
TEMKIN, I. S.

Bolezni Ukha Nosa i Gorla (Diseases of Ear, Nose and Throat), 483 p., Medgiz,
Moscow, 1950.

TEMKIN, I.S.

LIKHACHEV, A.G.; TEMKIN, I.S.

Otorhinolaryngology in relation to the increased 6 year course of
medicine. Vest. otorinolar. No.3:11-21 May-June 50. (CLML 19:4)

"APPROVED FOR RELEASE: 07/16/2001

CIA-RDP86-00513R001755220007-2

APPROVED FOR RELEASE: 07/16/2001

CIA-RDP86-00513R001755220007-2"

The pathogenesis of occupational neoplasms of the urinary bladder. I. S. Iopkin. *Trav. zhiv. 1955*, No. 1, p. 1-4. Review and discussion of neoplastic diseases of the urinary bladder. The author states that the main cause of these diseases is the action of carcinogenic agents. The author also discusses the role of the immune system in the pathogenesis of these diseases. The author concludes that the pathogenesis of these diseases is a complex process involving both external and internal factors.

TEMKIN, I.S.

[Tumors of the bladder caused by concenterogenic amino compounds]
Opukholi mochevogo puzyria, vyzvannye kantserogennymi amino-
soedineniyami. Moskva, Medgiz, 1957. 262 p. (MLRA 10:6)

1. Zaveduyushchiy urologicheskim otdeleniyem Moskovskoy gorodskoy
bol'nitsy, No.36.

(BLADDER--CANCER) (CARCINOGENS)

DVIZHKOV, P.P.; NEYMAN, I.M.; SINAY, A.Ya.; TEMKIN, I.S.

Tumors of the bladder in dogs induced by β -naphthylamine.
Ark. pat. 22 no.2:18-26 '60. (MIRA 13:12)
(BLADDER—TUMORS) (NAPHTHYLAMINE)

TEMKIN, Izrail' Solomonovich, doktor med. nauk; LOPATKIN, N.A., red.;
LYUDKOVSKAYA, N.I., tekhn. red.

[Tumors of the urinary bladder caused by cancerogenic amino
compounds] Opukholi mochevogo puzyria, vyzvannye kantsero-
gennymi aminosoeineniyami. 2., dop. 1 perer. izd. Moskva,
Medgiz, 1962. 329 p. (MIRA 15:4)
(BLADDER—CANCER) (AMINO COMPOUNDS)

KARAFETYAN, A.S.; TEMKIN, I.S. (Moskva)

Prevention of occupational neoplasms of the bladder. Gig.truda
i prof.zab. 6 no.6:25-28 Je '62. (MIRA 15:12)
(OCCUPATIONAL DISEASES—PREVENTION)
(BLADDER—TUMORS)

Temkin, I. V.

B. T. R.
Vol. 3 No. 4
Apr. 1954
Lubrication and Friction

2
D. M. M. L.
5125* Use of Anti-Friction Carbon-Graphitic Materials in
Machine Construction. (Russian.) I. V. Temkin. Vestnik
Mashinostroeniia, v. 33, no. 9, Sept. 1953, p. 22-24.
Presents physical-chemical properties of carbon-graphitic ma-
terials for reduction of friction. Table, graphs, diagram, photo-
graph.

ME
7-14-54

TEMKIN, I.V

25(1)

PHASE I BOOK EXPLOITATION SOV/2446

Akademiya nauk SSSR. Institut nauchnoy i tekhnicheskoy informatsii

Title: Izgotovleniye izdeliy metodami poroshkovoy metallurgii
(The Manufacture of Products by the Methods of Powder Metallurgy)
Moscow, Filial Vsesoyuznogo instituta nauchnoy i tekhnicheskoy
informatsii, 1957. 23 p. (Series: Peredovoy nauchno-tekhnicheskoy i proizvodstvennyy opyt. Tema 4, No. M-57-320/3)
1,400 copies printed.

Ed.: A. N. Malov, Candidate of Technical Sciences; Exec. Ed.:
L. Ye. Shobik, Engineer; Tech. Ed.: T. M. Sorokina.

PURPOSE: This booklet is intended for specialists in the field of powder metallurgy.

COVERAGE: The three articles in this brief collection deal with several aspects of the manufacture of sintered-metal and cemented-carbide products. The first article is concerned with the effect of various factors (chemical composition, surface treatment, carbide grain size, and temperature) on the fatigue

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SOV/2446

The Manufacture (Cont.)

limit of cemented tungsten-cobalt carbides at normal and elevated temperatures. The remaining two articles deal with centrifugal mixers for cermet compositions and with a four-cavity compacting die for iron-ceramic bushings. No personalities are mentioned. There are no references.

TABLE OF CONTENTS:

Kreymer, G. S.; I. I. Sidorin; and Ye. F. Tishchenkova. Fatigue Limit of Hard Alloys at Normal and Elevated Temperatures	3
Effect of chemical composition of hard alloys on their fatigue limit	7
Effect of surface treatment on the fatigue limit of hard alloys	11
Effect of the grain size of the carbide phase on the fatigue limit of tungsten-cobalt carbides	13
Effect of Temperature on the Fatigue Limit of Hard Alloys	14
Conclusions	17
Temkin, I. V. Centrifugal Mixers for Metal-Ceramic Compositions	20

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The Manufacture (Cont.)

SOV/2446

Nikolayev, N. N. Four-cavity Die for Compression-molding of
Iron-Ceramic Bushings

23

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Card 3/3

1. E. H. H. H. H. H.
TEMKIN, I.V., inzh.

Using modern materials made on the base of carbon and graphite.
Vest. mash. 38 no.1:37-41 Ja '58. (MIRA 11:1)
(Cermets)

SOV/136-59-3-13/21

AUTHORS: Fialkov, A.S. and Temkin, I.V.

TITLE: Prospects for the Application of Vibration Grinding in the Production of Finely-dispersed Coal-graphite Materials (Perspektivy primeneniya vibropomola v proizvodstve tonkodispersnykh uglegrafitovykh materialov)

PERIODICAL: Tsvetnyye Metally, 1959, Nr 3, pp 53 - 60 (USSR)

ABSTRACT: The authors give three flowsheets (Figures 1a, 6,2) used for the production of highly dispersed coal-graphite materials. They have previously (Ref 4) considered a quicker method (Figure 1, B) in which grinding is combined with mixing through the application of variable-sign loads (frequency up to 50 Hertz) to the material. They now describe their investigations in this field, in which Ye.B. Beletskaya and V.T. Kolosok, Engineers participated. Different combinations of materials with binders (compositions given in Table 1) were tested, a laboratory-type M-10 vibro-mill being used. The proportion of 0 - 10 μ material, which was used as the criterion of comminution, was determined by sedimentation (Ref 8) (the Rosin-Rammler empirical equation was also used). The comminution vs time curve for various

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SOV/136-59-3-13/21

Prospects for the Application of Vibration Grinding in the Production of Finely-dispersed Coal-graphite Materials

materials, including natural Nогinsk graphite, are shown in Figure 2. Unroasted oil-cracking coke was the easiest to grind, pyrolysis oil roasted coke the hardest. Rosin-Rammler plots (Figures 3 and 4) show that the size grading is practically independent of grinding time but varies with the nature of the initial materials. Figure 5 shows the dependence of the absorption of non-polar paraffin, the nominal specific surface and the bulk density (Curves A, B and C, respectively) on grinding time. With lamp-black a breakdown of the chain structure occurs (Figure 6 shows electron photographs X 7000 of specimens before and after grinding). With high-temperature, char viscosity decreased during grinding (Table 2) due to a mechanical-chemical effect (Refs 10, 11). Graphitised specimens were prepared from various mixtures by methods involving the various flowsheets and their physical and mechanical properties were determined. The properties obtained with the authors' flowsheet were generally superior (Table 3). This flowsheet was used

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SOV/136-59-3-13/21

Prospects for the Application of Vibration Grinding in the Production of Finely-dispersed Coal-graphite Materials

with industrial-scale mills (200, 400 and 1 000 litres capacity) with a process cycle of 15 days: the scale effect had little influence on the properties (Table 4) and thus tests with small samples of raw materials can be used for arriving at optimal compositions. The method is suitable for high-temperature char with a softening temperature over 120 °C. There are 7 figures, 4 tables and 11 references, 7 of which are Soviet and 4 German.

Card 3/3

69/66

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S/069/60/022/02/014/024
D034/D002

AUTHORS: Fialkov, A.S., Temkin, I.V., Toporova, V.P.

TITLE: The Effect of Vibro-Disintegration on the Reinforcing Properties of Carbon Blacks 16

PERIODICAL: Kolloidnyy zhurnal, 1960, Vol XXII, Nr 2, pp 229-232 (USSR)

ABSTRACT: The authors report on a comparative study of the changes in the reinforcing abilities of carbon blacks in dependence on the disintegration of the secondary structure (chains formed by mutually combined black particles). Lamp and gas channel black were crushed in a vibromill and subsequently introduced into a rubber mixture. The blacks were processed in a vibromill of type M-10 (volume of the body - 10 l) with a vibration amplitude of 2.5 mm and a vibration frequency of 25 cycles per second

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D034/D002

The Effect of Vibro-Disintegration on the Reinforcing Properties
of Carbon Blacks

under isothermal conditions (25-30°C). Volumetrically the crushed specimens were measured in a dry state and in "Galosha" benzene. The oil values and the conditional specific surface were determined with a photoelectrocolorimeter of the type FEK-M. The table shows that after the crushing process the volume of the blacks diminishes, in the dry state as well as in benzene. The same holds for the oil values. These changes are apparently the result of a thorough-going disintegration of the secondary structure, which is confirmed by the electron microphotographs given on the insert. The disintegration of the secondary structure sets free a considerable number of active centers, which interact with air oxygen. This results in an activation of the blacks (graph in

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D034/D002

The Effect of Vibro-Disintegration on the Reinforcing Properties
of Carbon Blacks

Figure 3). The introduction of disintegrated blacks into rubber mixes caused modulus reduction and an increase in the relative elongation of the mixes (graph in Figure 3). An abrupt fall in the breaking strength of rubber mixes was observed in the case of introduction of disintegrated channel black (see table). The authors assume more intense structure disintegration and oxidation as the basis of the observed phenomenon. X-ray analysis of lamp black disintegrated for 16 hours did not reveal changes in the structure of the crystalline particles. Blacks processed in vibromills may be used for special rubber mixes, and also as activators in the granulation of ordinary blacks. There are 2 graphs, 1 set of electron microphotographs on centerfold, 1 table and 6 references, 5 of which are Soviet and 1 German.
February 27, 1959

SUBMITTED:
Card 3/3

LIVSHITS, P.S., kand.tekhn.nauk; SYSOYEVA, L.P., kand.tekhn.nauk;
TEMKIN, I.V., inzh.

New brands of materials for electric brushes. Vest. elektroprom.
31 no.8:17-19 Ag '60. (MIRA 15:5)
(Brushes, Electric)

25070

S/080/60/033/010/024/029

D216/D306

15 2250

AUTHOR: Temkin, I.V.

TITLE: Investigating the properties and structures of highly
dispersive carbon-graphite materials based on carbon
black-charcoal-tar compositions

PERIODICAL: Zhurnal prikladnoy khimii, v. 33, no. 10, 1960.
2340-2344

TEXT: The present work deals with investigation of three-component
composition carbon black-charcoal-tar. The properties of this com-
position are governed by the fact that both charcoal and carbon
black approach the working properties of graphite-carbon materials.
To prepare samples a new method was used which consists of the
grinding together materials with the high temperature tar. The in-
ter materials used were lamp black, birch charcoal and high tem-
perature tar. The differences shown are explained by the inter-dis-
tribution of carbon black and charcoal and their interaction with
the binders. Initially, introduction of small quantities of wood

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D216/D306

Investigating the properties ...

charcoal results in the development of porosity, and a weakening of mechanical properties, while on further increase of charcoal the mechanical strength increases which is the result of better packing of charcoal and carbon black particles. In order to decrease the carbon black content the intensity of charcoal grinding increases which results in the loss of the required thickness of absorption layers which is reflected in a further fall of mechanical strength of samples. The change in electrical resistivity is opposite to that of the hardness and mechanical strength of samples. This is explained by the fact that conductivity of samples is determined by the density of coke lattice binding and cementing the particles of carbon black and charcoal. The corresponding changes in sample composition affect not only the properties but the microstructure as well. The samples based on lamp black are characterized by carbon black agglomerates while samples with charcoal additions show structural carbon-graphite material of the intermediate type. The quality of this material is determined by the union of carbon black and charcoal which appears very important in its use

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Investigating the properties ...

for practical purposes. It is interesting to compare the effects of mixed and separate grinding of charcoal and tar. The data show that the mechanical properties of the first are higher than the latter, although their structures differ only slightly. (Ref. 10; A.A. Berlin, Usp. Khim., 27, 1958). The author offers thanks to A.S. Plaliov for his help in the present work. There are 2 tables, 4 figures and 10 Soviet-bloc references.

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S/122/60/000/006/007/012
A161/A026

18.1200

AUTHOR: Temkin, I. V., Engineer

TITLE: Application of Impregnated Carbon-Graphite Materials

PERIODICAL: Vestnik mashinostroyeniya, 1960, ⁴⁰No. 6, pp. 41-46.

TEXT: General information is given on carbon materials produced from coke, soot, charcoal, or graphite with tar as a binder; on their properties and production methods; and on various applications, e.g. bearings, sealing and piston rings, chemical equipment. The data used are from 16 sources (Ref. 1-16), including German periodicals and British patents. It is mentioned that for impregnating carbon-graphite with synthetic resin a pressure of 5-6 atm is sufficient, but for impregnation with metal a pressure of dozens of atm is required (Ref. 1); an installation for impregnation with tar (Ref. 10) is briefly described and illustrated (Figure 1). The installation for impregnation with liquid metal is stated to be more complex, consisting of high-pressure autoclave, compressor and vacuum equipment and measuring control instruments (Ref. 13). The physico-mechanical and antifriction properties of carbon-graphite impregnated with formaldehyde-

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A161/A026

Application of Impregnated Carbon-Graphite Materials

phenol resin and with tar are given in Tables 1 and 2 respectively; the former is suitable for work in temperatures up to 180°C only, but the tar-impregnated material may be applied at temperatures up to 350°C in oxidizing media and up to 1,000°C in neutral or reducing ones. Material impregnated with bronze and silver (Ref. 14) may be used for work without lubricant at temperatures up to 500°C in oxidizing media, and up to 850°C in reducing media. S. F. Fonarev et al. (Ref. 15) stated that lead impregnation gives no noticeable improvement of antifriction properties at low specific work pressure, but under pressures over 50 kg/cm² the surface heats up and the friction coefficient drops (Figure 5), due to the plastic phase of lead and better orientation of the graphite film. The author concludes that carbon-graphite materials cannot fully replace the usual bearing materials but may well be used 1) when lubricants cannot be employed because of too high or low temperature, or because of explosion hazard, and 2) when no lubricant leakage from sealings is permissible. Various carbon-graphite bearing designs are shown (Figure 6). Sealing rings as in a pump for corrosive

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S/122/60/000/006/007/012
A161/A026

Application of Impregnated Carbon-Graphite Materials

matter (Figure 7) developed a wear of 20 microns in 1,000 hour tests (Ref. 14) and a pressure not higher than 2 kg/cm². There are 8 figures, 3 tables and 16 references: 10 Soviet, 2 English and 4 German.

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25935
S/136761/000/008/001/005
E021/E180

AUTHORS: Fialkov, A.S., Kazakova, O.B., Galkina, N.I., and Temkin, I.V.

TITLE: The influence of surface-active materials on the properties of carbon-graphite materials

PERIODICAL: Tsvetnyye metally, 1961, ³⁴No.8, pp. 41-46

TEXT: In the first experiments carbon-black with a specific surface area of 15.17 m²/g, pH of 8.47 and specific resistance of 1440 ohm mm²/m was used. A 30 g sample was treated with a 1% aqueous solution of the surface active material. The moisture was then removed and the adsorption of pitch by the sample from a solution of pitch in benzol was determined. The results were as follows:

	<u>Surface active material</u>	<u>% pitch adsorbed</u>
	Untreated carbon black	65
	OP-10 (OP-10) emulsifier	58
	OP-7 (OP-7) emulsifier	57
	OP-4 (OP-4) emulsifier	53
Card	Aerosol 103	53
1/ 7	Sulphanol (Nekal)	51
	Alkoman	50

The influence of surface-active ...

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The influence of adding surface active material on the properties of pitch is shown in Table 1. The pitch was coked in a closed porcelain vessel with a gradual heating to 950 °C, followed by holding for 8 hours. The physico-mechanical properties of coke obtained from pitch with different additions of surface active material are shown in Table 2. Fig.1 shows the pore distribution of coke. [Abstractor's note: meaning of $\Delta V/\Delta r$ not explained]. Curve 1 is for coke from untreated pitch; curve 2 for coke from pitch treated with 0.5% oleic acid; curve 3 with 3% oleic acid. It can be seen that the surface-active material results in a structure with finer pores and the quantity of coarse pores decreases. Semi-fabricated components of lamp-black and high temperature pitch were tested and the effect of additions of oleic acid (abscissa %) on the physico-mechanical properties is shown in Fig.3. Curve 1 is the bending strength in kg/cm² (left-hand ordinate); curve 2 is the specific electrical resistance in ohm mm²/m (middle ordinate); curve 3 is the hardness in kg/mm². Thus the shielding action of surface active materials on the surface of carbon powders is demonstrated. Additions of surface-active material to pitch result in a finer pored structure of the

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The influence of surface-active ...

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E021/E180

coke made from it, because of a decrease in surface-tension and viscosity of the pitch. Additions of surface-active material to carbon-graphite mixtures improve the physico-mechanical properties of the carbon-graphite materials. There are 3 figures, 4 tables and 6 Soviet references.

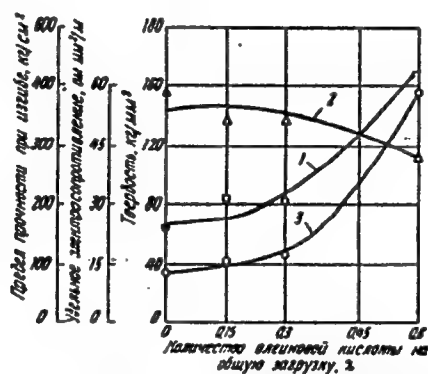


Fig.3

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ACC NR: AP6009870 (A) SOURCE CODE: UR/0413/66/000/004/0068/0068

INVENTOR: Fialkov, A. S.; Tselikhovskiy, G. I.; Temkin, I. V.; Bayer, A. I. 42

ORG: none 15

TITLE: Preparation of antifriction material. 15 Class 39, No. 178977 15

SOURCE: Izobreteniya, promyshlennyye obraztsy, tovarnyye znaki, no. 4, 1966, 68

TOPIC TAGS: antifriction material, lubrication, phenolformaldehyde material, wear resistant material, graphite additive

ABSTRACT: An Author Certificate was issued for a method of preparing an improved antifriction material composed of cord fabric and phenolformaldehyde resin. 15 Wear resistance of the material is increased by heat treatment at up to 1000C and the antifriction property is enhanced by addition of graphite to the resin. 15 [JK]

SUB CODE: 11/ SUBM DATE: 24Jul63/ . ATD PRESS: 4222

Card 1/1 K

UDC: 621.893:678.623'32'21 2

TEMKIN, L.D., inzh.

Possibilities for automating production processes in the
silicate industry. Stroim. 5 no.11:4-9 M '59.

(Automation) (Silicates)

(MIRA 13:3)

TEMKIN, L.D., inzh.

Systems of installations for the automation of lime kilns.
Stroi. mat. 9 no.5:19-21 My '63. (MIRA 16:7)

(Lime kilns) (Automatic control)

TEMKIN, L. E., ed

Russia 1923 USSR

Provisional regulations on design and construction of unheated roofs of corrugated asbestos cement

TEMKIN, L. E., ed.

Russia 1923 USSR

sheets with strenghtened profile and compensation joints (I-175-53) Approved Dec. 7.
Minstroy

I. Roofs. 2. Asbestos cement. I. Temkin, L.E., ed

II. Moscow. Tsentral'nyi nauchnoissledovatel'skii institut promyshlennyykh
sorruzhenii

TEMKIN, L. E., ed.

Russia 1983 USSR

Industrial Structures (I-143-53) Moskva,
Minstroy

TEMKIN L. E., ed.

RUSSIA (1923- USSR

Directives on computation of cross section elements in ferroconcrete
constructions I-123-491

1 Reinforced concrete construction. I. Temkin L. E. ed,

of roofs for industrial buildings, roofs of asbestos cement pipes
as specified by the Central Scientific Research Institute of

(Continued on next card)

1. roofs. 2. Asbestos cement. I. Teslin, L. M., ed. II. Moscow.
Tsentral'nyi nauchnoissledovatel'skii institut promyshlennykh
sooruzhenii.

TEMKIN, L.E. ed.

Russia (1923 - USSR)

1. Paneling. 2. Precast concrete construction.
1. Moscow. Tsentral'nyi nauchno-issledovatel'skii institut promyshlennykh sooruzhenii.
11. Temkin, L.E., ed.

...IN, L.UE., ed.

Russia (1923- USSR)

Instructions on manufacture of reinforced lag concrete solid floor panels.

TEMKIN, L.E., ed.

Russia 1923

Specifications for welded reinforcements used in reinforced concrete construction
elements (TU 73-53 Minstroi)

1. Reinforced concrete. I. Temkin, L.E., ed. II. Moscow. Tsentral'nyi nauchnoissled-
ovatel'skii institut promyshlennykh sooruzhenii.

TERMIN, L. V. Ed.

RUSSIA (1923- U.S.S.R.) Ministerstvo stroitel'stva predpriatii tiazheloi industrii.
Tekhnicheskoe upravlenie. Instruktsiia... (Card 2)

lit-ry, 1946. 71 p. (52-39635)

TH2444.R85 1946

THAKIN, L. YE.

"Concerning Instruction in the Adoption and Application of Steel Reinforcement
Processed by the Power-Calibration Method," Reinforced Concrete, Stroitel'. Pro.,
No. 1, 1948. Engr.

BALYUKOV, V.S., inzhener; VASIL'YEV, B.F., inzhener; KOSTYUKOVSKIY, M.G.,
inzhener; TEMKIN, L.Ye., inzhener, redaktor; DAKHNOV, V.S.,
tekhnicheskij redaktor

[Technical specifications for hollow cast concrete floors]
Tekhnicheskie usloviia na nastil zhelezobetonnyi mnogopustotnyi.
(TU-76-50). Moskva, Gos.izd-vo stroit.lit-ry, 1951. 48 p.
[Microfilm]

(MLRA 10:6)

1. Vsesoyuznaya kontora tipovogo proyektirovaniya i tekhnicheskikh
issledovaniy (VTIS) Glavstroyproyekta Ministerstva stroitel'stva
predpriyatiy tyazheloy industrii (for Balyukov, Vasil'yev,
Kostyukovskiy). 2. Tekhnicheskoye upravleniye Ministerstva
stroitel'stva predpriyatiy tyazheloy industrii (for Temkin)
3. Russia (1923- U.S.S.R.) Ministerstvo stroitel'stva.
predpriyatiy tyazheloy industrii. Tekhnicheskoye upravleniye
(Floors, Concrete)

DEMIDOV, S.N., inzh., red.; TEMKIN, I.Ye., red.; VORONIN, K.P.,
tekhn. red.

[Directions for erecting reinforced concrete structures and
installations by industrial methods; planning and execution
(USP 101-51)] Ukazaniia po vozvedeniiu zhelezobetonnykh kon-
struktsii promyshlennykh zdani i sooruzhenii industrial'nykh
metodami; proektirovanie i proizvodstvo rabot (USP 101-51).
Moskva, Gos. izd-vo lit-ry po stroit. i arkhitekt. 1952. 222 p.
(MIRA 16:7)

1. Russia (1923- U.S.S.R.) Komitet po delam stroitel'stva.
(Reinforced concrete construction)

TEMKIN, L.Ya. inzhener, redaktor; TUMARKIN, D.M., inzhener, redaktor;
TOKER, A.M., tekhnicheskii redaktor.

[Temporary specifications for reinforced concrete pipes and
prestressed risers and unions (TU-67-51). Instructions on calcu-
MSPTI

lations for prestressed reinforced concrete rising mains (U-96-50)]

MSPTI

Vremennye tekhnicheskie usloviia na truby zhelezobetonnye predvari-
tel'no napriazhennye napornye i soedinitel'nye mufty k nim (TU-67-51).
MSPTI

Ukazaniia po raschetu zhelezobetonnykh predvaritel'no napriazhennykh
napornykh trub (U-96-50). 2-e izd. Moskva, Gos. izd-vo lit-ry po
MSPTI

stroitel'stvu i arkhitekture, 1952. 62 p.

(MIRA 8:2)

1. Russia (1923- U.S.S.R.) Ministerstvo stroitel'stva predpriyatiy
tyazhelyy industrii. Tekhnicheskoye upravleniye.
(Pipe, Concrete)

TEMKIN, L.Ye., inzhener, redaktor.

[Standard specifications: wooden, glued girders with I- and H-beam profiles (NR 156-53 Ministry of Construction)]. Normal': balki dereviannye, kleenye, rel'sovidnogo i dvutavrovogo sechenii. (NR 156-53/Minstroï). Moskva, Gos. izd-vo lit-ry po stroitel'stvu i arkhitek-ture, 1953. 16 p. (MLRA 7:5)

1. Russia (1923- U.S.S.R.) Ministerstvo stroitel'stva.
(Girders)

TEMKIN, L.Ye., inzhener, redaktor; ROSTOVTSOVA, M.P., redaktor; TOKER,
A.M., tekhnicheskii redaktor.

[Standard specifications; Shaped steel elements for walls and
roofs made from VU corrugated asbestos-cement sheets with
reinforced contour; (NR-142-52)] Normal' elementy fasonnye stal'nye

MSPTI

dlya ograbzhenii iz asbestotsementnykh volnistykh listov usilennogo
profilia VU (NR-142-52) . Moskva, Gos. izd-vo lit-ry po stroit. i

MSPTI

arkhitekture, 1953. 17 p.

(MIRA 8:2)

1. Russia (1923- U.S.S.R.) Ministerstvo stroitel'stva pred-
priyatiy tyazhelyy industrii. Tekhnicheskoye upravleniye.
(Steel, Structural) (Asbestos cement)

TEMKIN, L.Ye., inzhener, redaktor; TUMARKIN, D.M., redaktor; TOKER, A.M.,
tekhnicheskii redaktor.

[Instructions on manufacturing and accepting reinforced-concrete
large-panel slabs to be used as floors of industrial buildings]
Ukazaniia po izgotovleniiu i priemke zhelezobetonnoho krupnopanel'-
nogo nastila dlia pokrytii promyshlennykh zdanii U-118-52 . Mo-
MSPTI
skva, Gos. izd-vo lit-ry po stroitel'stvu i arkhitekture, 1953. 19 p.
[Microfilm] (MLRA 8:2)

1. Russia (1923- U.S.S.R.) Ministerstvo stroitel'stva. Tekh-
nicheskoye upravleniye.
(Reinforced concrete construction) (Floors)

TEMKIN, L.Ye., inshener, redaktor; ROSTOVTSHEVA, M.P., redaktor; TOKER, A.M.,
tekhnichaskiy redaktor.

[Instructions for planning and laying industrial building floors
made of cast iron plates with support extensions (U-122-53). Stan-
dard specifications: cast iron plate with support extensions for
floors laid in sand (NR-154-53). Ukazaniia po proektirovaniu i
ustroistvu polov iz chugunnykh plit s opornymi vystupami v pro-
myshlennykh sdaniakh (U-122-53). Normal' plita chugunnaia s opor-
nymi vystupami dlia polov, ukladyvaemai na peske (NR-154-53).
Moskva, Gos. izd-vo lit-ry po stroitel'stvu i arkhitekture, 1953.
21 p. (MIRA 7:8)

1. Russia (1923-
(Floors)

U.S.S.R.) Ministerstvo stroitel'stva.

TEMKIN, L.Ye., inzhener, redaktor; GORSHKOV, A.P., redaktor; SMOL'YA-KOVA, M.V., tekhnicheskii redaktor.

[Unheated roofs made of asbestos-cement corrugated sheets of reinforced design VU for industrial buildings. Standard drawings.

TCh-8-52] Neuteplennye pokrytiia iz asbestotsementnykh volnistykh listov usilennogo profil'ia VU dlia promyshlennykh zdani. Tipovye cherteshi. TCh-8-52. Moskva, Gos. izd-vo lit-ry po stroit. i arkhitekture. 1953. 22 p. (MIRA 7:9)

1. Russia (1923- U.S.S.R.) Ministerstvo stroitel'stva. Tekhnicheskoe upravleniye.
(Asbestos cement) (Roofs)

TAMKIN, L.Ye., inzhener, redaktor.

[Manual on planning prestressed reinforced concrete structures
(I-148-52) MSPTI]. Instruksia po proektirovaniu predvaritel'no
napriazhennykh zhelezobetonnykh konstruktsii (I-148-52) MSPTI .

[Redaktor L.S.Tamkin] Moskva, Gos. izd-vo lit-ry po stroitel'-
stvu i arkhitekture, 1953. 81 p. (MLRA 7:2)

1. Russia (1923- U.S.S.R.) Ministerstvo stroitel'stva.
Tekhnicheskoye upravleniye. (Concrete, Prestressed)

TEMKIN, L.Ya., inzhener, redaktor; AZRILYANT, Ya.M., redaktor; TOKER, A.M.,
voprosy tekhnicheskoy redaktor.

[Specifications for reinforced, autoclave foam-concrete sheets 2.5
and 3.0 meters long for industrial plant floors (TU 137-53)] Tekh-
Minstro
nicheskie uslovia na plity armirovannye iz avtoklavno penobetona
dlinoi 2,5 i 3,0 m. dlia pokrytii promyshlennykh zdani (TU 137-53).
Minstro
Moskva, Gos. izd-vo lit-ry po stroitel'stvu i arkhitekture, 1954.
7 p. (MLRA 8:2)

1. Russia (1923- U.S.S.R.) Ministerstvo stroitel'stva. Tekhnicheskoye
upravleniye.
(Floors, Concrete) (Precast concrete construction)

TEMKIN, L.Ye., inzhener, redaktor; TOKER, A.M., tekhnicheskiy redaktor.

[Standard specifications; Spring rivets for fastening corrugated asbestos-cement sheets with reinforced contour] Normal' klyamery pruzhinnye dlia krepleniia asbestotsementnykh volnistykh listov usilennogo profilii (NR 158-53). Moskva, Gos. izd-vo lit-ry po Minstro

stroitel'stvu i arkhitekture, 1954. 14 p.

(MLRA 8:2)

1. Russia (1923- U.S.S.R.) Ministerstvo stroitel'stva. Tekhnicheskoye upravleniye.
(Fastenings)

TEMKIN, L.Ye., inzhener, redaktor; AZRILYANT, Ya.M., redaktor; TOKER, A.M.,
tekhnicheskiiy redaktor.

[Instructions for the manufacture of reinforced slag concrete
solid floor panels] Ukazaniia po izgotovleniiu shlakozhelezo-
betonnykh sploshnykh paneli perekrytiia (U-126-53). ^{Minstroy} Moskva,
Gos. izd-vo lit-ry po stroitel'stvu i arkhitekture, 1954, 23 p.
(MLRA 8:1)

1. Russia (1923- U.S.S.R.) Ministerstvo stroitel'stva. Techni-
cheskoye upravleniye.
(Precast concrete construction)

TEMKIN, L.Ye., nauchnyy redaktor; UDOD, V.Ya., redaktor; TOKER, A.M.,
tekhnicheskiiy redaktor

[Specifications for welded reinforcements used in reinforced
concrete construction elements. (TU 73-53)] Tekhnicheskie
(MINSTROI)

usloviia na svernuiu armaturu dlia shhelezobetonnykh konstrukttsii
(TU 73-53) Moskva, Gos. izd-vo lit-ry po stroitel'stvu i arkhitek-
MINSTROI ture, 1954. 24 p. (MLRA 7:10)

1. Russia (1923- U.S.S.R.) Ministerstvo stroitel'stva. Tekhni-
cheskoye upravleniye
(Reinforced concrete)

TEMKIN, L.Ye., inzhener, redaktor; TOKER, A.M., tekhnicheskiy redaktor.

[Provisional regulations on design and construction of unheated roofs of corrugated asbestos cement sheets with strengthened profile and compensation joints ^{I-175-53} (Minstroy)] Vremennaya instruktsiya po proektirovaniu i ustroystvu neutplennykh pokrytii iz asbestotsementnykh volnistykh listov usilennogo profil'ia s kompensatsionnymi shvami ^{I-175-53} (Minstroy). Moskva, Gos. izd-vo lit-ry po stroitel'stvu i arkhitekture, 1954. 31 p. (MIRA 7:11)

1. Russia (1923- U.S.S.R.) Ministerstvo stroitel'stva. Tekhnicheskoye upravleniye.
(Roofs) (Asbestos cement)

1. TEMKIN, L.Ye.

VOLZHENSKIY, A.V., professor; KISLYAKOV, L.A., kandidat tekhnicheskikh nauk; TEMKIN, L.Ye., inzhener, nauchnyy redaktor; ROSTOVTSOVA, M.P., redaktor; PERSON, M.N., tekhnicheskiiy redaktor

[Production of hollow reinforced-concrete beams and panels for ceilings and floors] Proizvodstvo zhelezobetonnykh pustotelykh balok-nastilov i paneli perekryti. Moskva, Gos. izd-vo lit-ry po stroitel'stvu i arkhitekture, 1954. 60 p. (MLRA 7:10)

1. Chlen-korrespondent Akademii arkhitektury SSSR (for Volzhenskiy)
(Girders) (Precast concrete construction)
(Floors, Concrete)

TEMKIN, I. V., inzhener, redaktor; AZRILYANT, Ya. M., redaktor; TOKER, A. M.,
tekhnicheskiy redaktor

[Technological instructions for the electric welding of reinforcements
in reinforced concrete construction (TP-2-54)] Tekhnologicheskie
Minstroï

pravila po elektrosvarke armatury zhelezobetonnykh konstruktsei
(TP-2-54). Moskva, Gos. izd-vo lit-ry po stroit. i arkhitekture,
Minstroï
1954. 71 p. (MIRA 8:3)

1. Russia (1923- U.S.S.R.) Ministerstvo stroitel'stva. Tekhni-
cheskoye upravleniye.
(Electric welding) (Reinforced concrete)

TEMKIN, I.Ye., inzhener, redaktor; AZRILYANT, Ya.M., redaktor;
TOKER, A.M., tekhnicheskii redaktor.

[Provisional technical conditions and instruction for studying
soils of the foundations of industrial and public buildings and
structures] Vremennye tekhnicheskie uslovia i instruktsii na issle-
dovanie gruntov osnovanii promyshlennykh i grazhdanskikh zdani i
sooruzhenii. Moskva, Gos. izd-vo lit-ry po stroitel'stvu i arkhitek-
ture, 1954. 105 p. (MLRA 8:1)

1. Russia (1923- U.S.S.R.) Ministerstvo stroitel'stva. Tekhni-
cheskoye upravleniye.
(Soil mechanics) (Foundations)

GORNOV, V.N., redaktor; TEMKIN, L.Ye., inzhener, redaktor; ROSTOVTSEVA, M.P., redaktor; TOKER, A.M., tekhnicheskii redaktor

[Investigating the strength, rigidity and stability of large panel constructions] Issledovaniia prochnosti, shetkosti i ustoichivosti krupnanel'nykh konstruktsei; sbornik statei. Pod red. V.N.Gornova. Moskva, Gos. izd-vo lit-ry po stroit. i arkhitekture, 1954. 174 p.
(MLRA 8:5

1. Chlen-korrespondent akademii arkhitektury SSSR (for Gernov)
2. Akademiya arkhitektury SSSR, Moscow. Institut stroitel'noy tekhniki.

(Precast concrete construction)

TEMKIN L.YE.

MURASHEV, V.I., doktor tekhnicheskikh nauk, professor, laureat Stalinskoy premii, redaktor; TEMKIN, L.Ye., nauchnyy redaktor; YEGOROVA, N.O., redaktor; DAKHNOV, V.S., tekhnicheskiiy redaktor.

[Research on heat-resistant concrete and reinforced concrete] Issledovaniia po zharoupornym betonu i zhelezobetonu. Pod red. V.I. Murasheva. Moskva, Gos. izd-vo lit-ry po stroitel'stvu i arkhitekture, 1954. 325 p. (MLRA 7:11)

1. Moscow. Tsentral'nyy nauchno-issledovatel'skiy institut promyshlennykh sooruzheniy.
(Concrete) (Reinforced concrete)

TEMKIN, L.Ye., inzhener, redaktor; MASLOV, N.A., redaktor izdatel'stva;
VOLKOV, V.S., tekhnicheskii redaktor

[Instructions for controlling the laying of foundations of
industrial and public buildings and structures (U 127-55/MS MSPMKhP)]
Ukazaniia po nabliudeniui sa osadkami fundamentov promyshlennykh i
grazhdanskikh zdani i sooruzhenii. (U 127-55/MS-MSPMKhP). Moskva,
Gos. izd-vo lit-ry po stroit. i arkhitekture, 1955. 27 p. (MLRA 9:10)

1. Russia (1923- U.S.S.R.) Ministerstvo stroitel'stva.
(Foundations)

DAHILOV, H.N., kandidat tekhnicheskikh nauk; NIKOLAYEV, V.A., inzhener; TEMKIN, L.Ye., redaktor; UDOD, V.Ya., redaktor; DAKHNOV, V.S., tekhnicheskiy redaktor.

[Production of precast reinforced concrete elements and parts in construction yards] Proizvodstvo sbornykh zhelezobetonnykh konstruktsii i detalei na poligonakh. Moskva, Gos. izd-vo lit-ry po stroit. i arkhitekture, 1955. 76 p. (MIRA 9:5)
(Precast concrete)

KUZNETSOV, G.F., doktor tekhn.nauk; MOROZOV, N.V., kand.tekhn.nauk;
LIVCHAK, I.F., kand.tekhn.nauk; TUMKIN, L.Ye., inzh., nauchnyy red.;
TUMAKIN, D.M., inzh., red.izd-va; MEDVEDOV, L.Ya., tekhn.red.

[Manual on planning apartment houses and public buildings of panel
and frame-panel construction] Rukovodstvo po proektirovaniu
zhilykh i obshchestvennykh zdaniy s panel'nymi i karkasno-panel'-
nymi konstrukttsiyami. Moskva, Gos.izd-vo lit-ry po stroit. i
arkhit., 1955. 142 p. (MIRA 11:3)
(Apartment houses) (Building)

TEMKIN, L.Ye., inzhener, redaktor; BORODINA, I.S., redaktor; TOKER,
A.M., tekhnicheskii redaktor.

[Studies; masonry structures] Issledovaniia; kamennye konstruk-
tsii. Moskva, Gos. izd-vo lit-ry po stroitel'stvy i arkhitek-
ture, 1955. 237 p. (MLRA 8:10)

1. Moscow. Vsesoyuznyi nauchno-issledovatel'skii institut po
stroitel'stvu.
(Masonry)

POL'DISH, Mikhail Yakovlevich [deceased]; POLYAKOV, Svyatoslav Vasil'yevich;
TEMKIN, L.Ye., inzhener, redaktor; YEGOROVA, N.I., redaktor; MEDVE-
DEV, L.Ya., tekhnicheskij redaktor.

[Stone and reinforced masonry elements for buildings] Kamennye i
armokamennye konstruktsii zdaniy. Izd. 2-3, perer. Moskva, Gos.
izd-vo lit-ry po stroitel'stvy i arkhitekture, 1955. 399 p. (MLRA 8:8)
(Masonry)

~~TEMKIN, I. Ya.~~ inzh.; red.; MEYSTER, V.A., kand.tekhn.nauk, red.;
MONITS, A.P., red.izd-va; GUSEVA, S.S., tekhn.red.

[Instructions for investigation of building properties of
soils by field laboratories of the I.M.Litvinov system]
Instruktsiia po issledovaniu stroitel'nykh svoistv gruntov
polevoi laboratorii sistemy I.M.Litvinova. (I 203-56/MSPMKhP).
Moskva; Gos.izd-vo lit-ry po stroit.i arkhitekt., 1956. 53 p.

(MIRA 11:1)

1. Russia (1923- U.S.S.R.) Ministerstvo stroitel'stva pred-
priyatiy metallurgicheskoy i khimicheskoy promyshlennosti.
Tekhnicheskoye upravleniye.

(Soil mechanics)

GLUKHOVSKIY, A.D., kandidat tekhnicheskikh nauk; TEMKIN, L.Ye., inzhener,
nauchnyy redaktor; ROSTOVTSOVA, M.P., redaktor izdatel'stva;
MEL'NICHENKO, F.P., tekhnicheskii redaktor; DAKHOV, V.S., tekhnicheskii redaktor.

[Beamless and capitalless reinforces concrete ceilings for many-storied buildings; scientific report] Zhelezobetonnye bezbalechnye beskapitel'nye perekrytiia dlia mnogeetazhnykh zdani. Moskva, Gos. izd-vo lit-ry po stroit. i arkhitekture, 1956. 56 p. (MLRA 9:6)
(Ceilings)

NEMIROVSKIY, Ya.M., kandidat tekhnicheskikh nauk, starshiy nauchnyy
sotrudnik; SKAZHENIK, G.D., inzhener; TEMKIN, L.Ye., inzhener;
PEVZNER, A.B., redaktor izdatel'stva; DAKHNOV, V.S., tekhniche-
skiy redaktor

[Instructions for calculating and designing foundations of blast
furnaces] Instruktsiia po raschetu i proektirovaniu fundamentov
domennykh pechei (I 201-55/MSPMKhP). Moskva, Gos. izd-vo lit-ry
po stroit. i arkhitekture, 1956. 60 p. (MIRA 9:9)

1. Russia (1923- U.S.S.R.) Ministerstvo stroitel'stva pred-
priyatiy metallurgicheskoy i khimicheskoy promyshlennosti. 2.
TSentral'nym nauchno-issledovatel'skim institutom promyshlennykh
soorushenii (for Nemirovskiy) 3, Glavnyy konstruktor stroitel'-
nogo sektora Gosudarstvennogo Soyuznogo instituta po proyektirova-
niyu metallurgicheskikh zavodov (for Skazhenik) (MIRA 9:9)
(Blast furnaces)